

**Boralex-Ashland
Aroostook County
Ashland, Maine
A-577-70-B-A**

**Departmental
Findings of Fact and Order
Part 70 Air Emission License
Amendment #1**

After review of the Part 70 Minor Change application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

FACILITY	Boralex – Ashland (BA)
INITIAL LICENSE NUMBER	A-577-70-A-I
LICENSE TYPE	Minor Change
NAIC CODES	4911 – Electrical Generation
NATURE OF BUSINESS	Electric Generating Station
FACILITY LOCATION	RR1, Box 125, American Realty Road, Ashland
DATE OF INITIAL LICENSE ISSUANCE	July 2, 2002
DATE OF Section 502(b)(10) Change	May 10, 2005
LICENSE EXPIRATION DATE	July 2, 2007

B. Description of Minor Modification

Boralex Ashland (BA) is seeking certification as a renewable energy generator by the State of Massachusetts (MA). Like Maine, MA has a Renewable Portfolio Standard (RPS) which details the criteria which must be met in order to obtain certification. Once certified, BA will be allowed the opportunity to compete for the sale of renewable energy credits (RECs) directly to those generators or their energy marketing representatives which must have these credits to meet their Renewable Portfolio Standard (RPS) requirements. The MA RPS Program requires “new, low emission innovative technology”.

BA performed a Best Available Control Technology (BACT) analysis which demonstrated the installation of an Ecotube System is BACT. and has requested a Minor Change to install the Ecotube System, manufactured by ECOMB SA from Sweden, to reduce emissions of NO_x in order to meet Massachusetts certification requirements.

The Ecotube System consists of four liquid cooled, automatically retractable tubes (Ecotubes). These tubes are inserted into the boiler through openings in the walls. Ambient air is added through the Ecotubes with high pressure using adjustable nozzles in order to improve the mixing of the combustion gases and the air. The result is an efficient combustion process with overall reduced emissions. In addition, thermal efficiency is also increased which results in lower fuel consumption. A 30% liquid urea reagent or 19% aqueous ammonia (NH₃) reagent can also be introduced into the Ecotube System to enhance NO_x reduction.

Also included in this application is the recalculation of ammonia slip. The original 40 ppm ammonia slip concentration remains the same, but the lb/hr and ton per year emission rates were incorrectly calculated in the original license. The corrected emission rates were calculated using the stack flow rate obtained during the December, 2004 stack test.

C. Application Classification

The installation of the Ecotube System does not violate any applicable requirements or state requirements and does not reduce monitoring, reporting, testing or record keeping requirements. As such, this modification is being classified as a Minor Change of a Part 70 Source under MEDEP Chapter 140 and has been processed as such.

D. Revised Facility Emissions

The following total licensed annual emissions for the facility are based on the following raw materials used. All usages are based on a 12 month rolling total.

- Boiler #1 wood use of 570,276 tons per year (4,500 Btu/lb, 50% moisture).
- Boiler #1 fuel oil use of 1,000,000 gallons per year of #2 fuel oil (0.5% sulfur by weight) in the oil-fired auxiliary burner.
- 5,000 gallons per year of waste oil in Boiler #1.
- Diesel Generator fuel use of 13,500 gallons per year of diesel fuel (0.05% sulfur by weight).
- Diesel Fire pump fuel use of 5,110 gallons per year of diesel fuel (0.05% sulfur by weight).

Total Allowable Annual TPY Emissions for the Facility
(used to calculate the annual license fee)

<u>Pollutant</u>	<u>Boiler (wood)</u>	<u>Boiler (oil burner)</u>	<u>Boiler (spec. oil)</u>	<u>Generator</u>	<u>Fire Pump</u>	<u>Total TPY</u>
PM	51.32	1.40	0.04	0.11	0.11	53.0
PM ₁₀	51.32	1.40	0.04	0.11	0.11	53.0
SO ₂	59.54	35.50	0.39	0.05	0.02	95.5
NO _x	384.94	10.50	0.05	4.08	1.54	401.1
CO	769.87	2.50	0.01	0.88	0.33	773.6
VOC	41.06	0.10	0.01	0.32	0.12	41.6
NH ₃	51.7	--	--	--	--	51.7
Lead	0.27	--	--	--	--	0.27

ORDER

The Department hereby grants Part 70 Minor Change A-577-70-B-A, subject to the conditions found in Part 70 License A-577-70-A-I, and in addition to the following conditions:

The following shall replace Condition (14)D of Part 70 License A-577-70-A-I:

(14) Boiler 1

D. Lb/hr emissions from Boiler 1 shall not exceed the following limits:

Pollutant	lb/hour
PM	11.7
PM ₁₀	11.7
SO ₂ *	54.1
NO _x	87.9
CO	175.8
VOC	9.4
NH ₃	11.8
Lead	0.062

*Note: SO₂ lb/hr limit is based on firing 0.5% fuel oil.

PM, SO₂, VOC, NH₃ and Lead lb/hr limits are on a one (1) hour average and can be demonstrated upon request by the Department by a stack test in accordance with this license.

CO and NO_x lb/hr limits are based on a 24 hour block average basis and can be demonstrated upon request by the Department by a stack test in accordance with this license. A 24 hour block average basis shall be defined as midnight to midnight.

[MEDEP Chapter 140, BPT]

The following shall replace Condition (21) of Part 70 License A-577-70-A-I:

(21) **Semiannual Reporting**

The licensee shall submit semiannual reports every six months to the Bureau of Air Quality. The semiannual reports are due **January 30th** and **July 30th** of each year.

A. Each semiannual report shall include a summary of the periodic monitoring required by this license. The periodic monitoring required by this license is as follows:

1. Hourly fuel oil flow into Boiler #1
2. Quantity of each fuel burned in Boiler #1 each day (wood, oil, waste oil)
3. A statement indicating the Primary and Secondary ESP voltages for the boiler were recorded and are available to the Department upon request and note which days were not recorded.

4. A statement indicating the daily Primary and Secondary ESP currents for the boiler were recorded and are available to the Department upon request and note which days were not recorded.
5. A statement indicating the urea mixture flow rate monitor data was recorded once per shift during operation is available to the Department upon request and note which days were not recorded.
6. Boiler #1 particulate matter stack testing results, when performed
- 7. Boiler #1 ammonia slip stack testing results, when performed.**
8. Quantity of diesel fuel burned in the generator and fire pump
9. #2 fuel oil sulfur content
10. Diesel fuel oil sulfur content
- B. Each semiannual report shall include the annual capacity factor of Boiler #1 for each fuel.
- C. All instances of deviations from license requirements and the corrective action taken must be clearly identified and provided to the Department in summary form for each six-month interval.
[MEDEP Chapter 140]

The following are new conditions to Part 70 License A-577-70-A-I:

(24) Boiler #1

- V. BA may operate the Ecotube System during Boiler #1 operations.
[MEDEP Chapter 140, BACT]

(30) Air Toxics Emissions Statement [MEDEP Chapter 137]

If BA combusts more than 4,700 tons of wood during a HAP inventory year (50% moisture or equivalent), an Air Toxics Emission Statement is required.

The licensee shall report HAP emissions in accordance with MEDEP Chapter 137 no later than July 1, the information necessary to accurately update the State's toxic air pollutants emission inventory by means of a written emission statement containing the information required in MEDEP Chapter 137.

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Reports and questions on the Air Toxics emissions inventory portion should be directed to:

Attn: Toxics Inventory Coordinator
Maine DEP
Bureau of Air Quality
17 State House Station
Augusta, ME 04333-0017

Phone: (207) 287-2437

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2005.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAWN R. GALLAGHER, COMMISSIONER

The term of this amendment shall be concurrent with the term of Air Emission License A-577-70-A-I.

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application February 23, 2005

Date of application acceptance February 25, 2005

Date filed with Board of Environmental Protection _____

This Order prepared by Mark E. Roberts, Bureau of Air Quality